

UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA

PRESTON MOE,

Case No. 20-CV-708 (NEB/JFD)

Plaintiff,

v.

ORDER

HYSTER-YALE GROUP, INC.,

Defendant.

While working at Hormel Foods, Preston Moe's foot was crushed by the forklift he was operating. Moe now sues the forklift's manufacturer, Hyster-Yale Group, Inc. ("HYG"), asserting several products liability claims. HYG moves to exclude Moe's expert witness and for summary judgment. For the reasons below, the Court grants HYG's motions in part and denies them in part.

BACKGROUND

I. Moe's Injury

During Moe's employment at Hormel, he operated an HYG forklift. (ECF No. 55-2 ("Moe Dep.") at 9 (native pagination).) The HYG operating manual instructs forklift operators to check the forklift's brakes, brake pads, brake pedal, and brake switch "before use and every eight hours or daily." (ECF No. 52-6 at 3, 5.) The manual also states the operator must "[c]heck the operation of the brake" and ensure that travel is disabled if the brake pedal is up. (*Id.* at 4-5.) On the date of his injury, Moe conducted this safety

check, but the forklift still malfunctioned: when Moe attempted to brake by removing his foot from the floor pedal, the forklift did not stop. (Moe Dep. at 76, 98; *see* ECF No. 55-1 (“Hallman Report”) at 6–7 (explaining how the floor pedal functions) (native pagination).) Moe’s forklift collided with a post, and his foot was crushed. (Hallman Report at 6.) After the accident, Hormel discovered that the floor pedal’s compression spring had broken. (*Id.* at 9; ECF No. 55-12 (“Meissner Report”) at 3 (native pagination).)

The compression spring is necessary for the floor pedal to function. (*See* ECF No. 56-1 (filed under seal) at 60, 64 (native pagination).) HYG’s expert, Lloyd Meissner, determined that the spring in this case was defective. (Meissner Report at 16.) Moe’s expert, David Hallman, stated that it is “reasonable” to believe the spring was defective, but he opined that the size and condition of the defect at the time the spring was installed is unknown. (ECF No. 55-14 (“Hallman Rebuttal”) at 10 (native pagination).)

Meissner also determined that the spring was not an original HYG part because it was shorter and lighter than HYG’s specifications. (Meissner Report at 2.) Hallman disagrees that the spring’s length or weight suggests it was a replacement. (Hallman Rebuttal at 9–10.) In the years before Moe’s injury, Hormel mechanics worked on the forklift at issue—including the foot pedal—but there are no work orders for the spring. (ECF No. 52-2 at 43–48 (native pagination).) And nothing in Hormel’s internal documents indicates that mechanics ever replaced the spring. (*Id.* at 45.)

II. Moe's Expert Witness David Hallman

Qualifications and Process. Hallman received an undergraduate degree in mechanical engineering and a master's degree in materials science and engineering. (Hallman Report at 3.) He is a consulting engineer with over twenty-nine years of experience in various engineering fields. (*Id.*) Hallman is also an adjunct faculty member at Minnesota State University, Mankato. (*Id.*)

Hallman inspected the forklift, the failed spring, and the replacement spring. (*Id.* at 6–7.) To inspect the failed spring, Hallman used a keyence light microscope and scanning electron microscope. (*Id.* at 7.) After examining the forklift and springs, Hallman reviewed the design of the spring and forklift and considered research on spring failures and how steel operates. (ECF No. 55-11 (“Hallman Dep.”) at 56 (native pagination).) Hallman explained that he used a “widely accepted Scientific Method of Inquiry.” (Hallman Report at 5.) This methodology is defined in a guide for fire and explosion investigations but also applies to general investigations. (*Id.* at 5–6.) Hallman did no physical testing, instead using “thought experiments” to arrive at his conclusion. (Hallman Dep. at 27.) Moe explained at the hearing on this matter that Hallman decided against using physical testing—for example, recreating the brake pedal assembly—because laboratory testing would not accurately replicate real-world use, and the manufacturing variables may have produced unreliable data.

Conclusions. Hallman reached conclusions on three issues relevant here: (1) why the spring fractured; (2) whether the spring was an original HYG part or a replacement; and (3) whether the brakes failed because of the spring's fracture.

Hallman's first conclusion is that the spring fractured because of "work hardening"—a surface defect caused by the spring's coil rubbing against the brake retention tab (the "rubbing theory"). (Hallman Report at 8.) Hallman explained that the forklift's design caused this repeated contact. (*Id.*) But, as Meissner noted, Hallman's theory was based only on the assumed position of the spring in the brake assembly, rather than concrete knowledge of the spring's position inside the assembly. (Meissner Report at 11.) The fracture's location was the only basis Hallman had to infer the spring's position. (Hallman Dep. at 120 ("[T]hat damage that we're talking about on the surface of the spring . . . aligns with the tab, and there's really no other feature on that assembly that could cause that kind of damage to the spring . . .").)

Several facts cut against the reliability of Hallman's rubbing theory. When Meissner prepared his expert report for HYG, he conducted a CT scan of the spring and identified an internal crack. (Meissner Report at 6–7.) Meissner concluded that the crack was present when Moe was injured and that it (rather than work hardening) led to the spring's failure because it "substantially reduced the strength and the useful life of the spring." (*Id.* at 12.) In his rebuttal report, Hallman agreed that the spring had an internal

crack, but determined that the crack combined with the work hardening caused the spring failure. (Hallman Rebuttal at 11–12; *see also* Hallman Dep. at 105–09.)

Adding to the unreliability of Hallman’s theory is the fact that Hallman expected that the brake retention tab would have markings from rubbing against the spring, but he observed none. (Hallman Dep. at 51, 89.) The replacement spring also had no markings despite being in the same brake system as the defective spring. (*Id.* at 47.) Hallman maintains that the replacement spring may have been different enough to avoid the rubbing, but he cites no evidence of these differences. (*See id.* at 48.)

Hallman’s second conclusion is that the spring was not a replacement. When responding to Meissner, Hallman acknowledged that the spring weighed less and was .323 inches shorter than HYG’s example springs. (Hallman Rebuttal at 9.) Hallman attributes this shrinkage to the spring’s internal defect and its mode of operation being “primarily in compression.” (*Id.*) Hallman notes that spring weight is not specified in HYG’s design drawings, so the example springs and the one at issue here could be different weights, especially if HYG’s supplier changed. (*Id.* at 9–10.)

Hallman’s third conclusion is that the spring’s defect caused the forklift’s brakes to malfunction. Hallman noted that the spring was a “critical safety item” and determined that “the brakes will not apply if the pedal does not return to its full, spring loaded height.” (Hallman Report at 7.)

III. Procedural History

Moe sues HYG, alleging several products liability claims based on the spring's manufacturing defect, the forklift's brake assembly design, and HYG's failure to warn. (ECF No. 4 ¶¶ 24–42.) HYG moves to exclude Hallman's testimony and for summary judgment. (ECF No. 49.)

ANALYSIS

I. Excluding Expert Testimony

Rule 702 of the Federal Rules of Evidence governs the admission of expert testimony. It provides:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

Lauson v. Senco Prod., Inc., 270 F.3d 681, 686 n.1 (8th Cir. 2001) (citing Fed. R. Evid. 702).

The Court's question is whether the expert testimony "is sufficiently reliable and relevant to assist the jury's determination of a disputed issue." *Bonner v. ISP Techs., Inc.*, 259 F.3d 924, 929 (8th Cir. 2001) (citing *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 594–95 (1993)). When determining the reliability of expert testimony, the Court must separate "expert opinion evidence based on good grounds from subjective speculation that masquerades as scientific knowledge." *Glastetter v. Novartis Pharms. Corp.*, 252 F.3d 986,

989 (8th Cir. 2001) (quotation marks and citation omitted). “Speculative testimony should not be admitted.” *Junk v. Terminix Int’l Co.*, 628 F.3d 439, 448 (8th Cir. 2010).

HYG contends that Hallman’s testimony should be excluded entirely. It takes issue with the three conclusions described above: (1) the rubbing theory; (2) the opinion about the spring’s origin; and (3) the conclusion that the fractured spring caused the brake failure. The Court grants HYG’s motion as to the rubbing theory but will allow Hallman’s testimony about the remaining subjects.

A. The Rubbing Theory

Hallman concluded that the spring failed because it rubbed against the brake retention tab, leading to a fracture. Moe contends that Hallman did a “fulsome analysis based on the available evidence” to reach this conclusion. (ECF No. 54 at 13.) But because the rubbing theory is based on unsupported assumptions, it is too speculative to be reliable. *Junk*, 628 F.3d at 448. Hallman reasoned that the spring *must* have rubbed on the brake retention tab because of its position and markings as well as the fact that it was fractured. But Hallman only assumed the spring’s position when operating. He also ignored facts that cut against his theory: he did not observe any marks on the brake retention tab, which should have existed had there been rubbing, and the replacement spring did not have any work hardening marks, though under Hallman’s theory they should have appeared almost immediately.

Moe explained that Hallman was unable to recreate the brake assembly system to test his conclusions and because of that, the theory was challenging to prove since it was based only on Hallman's observations and inspections. Even so, the rubbing theory is grounded in impermissible speculation. In *Junk*, the expert lacked the data necessary to conduct his analysis as he normally would and instead resorted to an inferior comparative analysis. *Id.* The district court concluded that the expert's method was not reliable due to unsupported assumptions. *Id.* The Eighth Circuit affirmed. *Id.* at 448–49.

Experts can depend on observations without physical testing in some situations. *See, e.g., Allstate Indem. Co. v. Dixon*, 932 F.3d 696, 701 (8th Cir. 2019) (“Where physical testing is not feasible, observations coupled with expertise generally may form the basis of an admissible expert opinion.” (quotation marks and citation omitted)). But Hallman's analysis does not present such a circumstance because he hypothesized on *assumed* facts. “A hypothesis is appropriately tested under the scientific method by comparing *all known facts*, acquired data . . . and the developed body of scientific knowledge to the hypothesis.” *Id.* (emphasis added). No known fact indicated the spring rubbed against the brake retention tab other than the spring's fracture and its general vicinity. Thus, Hallman's “reliance on unfounded assumptions . . . create[] ‘too great an analytical gap’ between his opinion and the data on which it relied.” *Junk*, 628 F.3d at 448 (quoting *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997)). His testimony about the rubbing theory is excluded.

B. The Spring's Origin

HYG contends that Hallman “has proffered no reliable evidence” that the spring was HYG’s and not a replacement. (ECF No. 51 at 19.) The Court disagrees. As an engineer with extensive experience, Hallman is qualified to testify about the spring’s mechanics. His testimony is also based on the relevant facts. Hallman explained that a defective spring may experience “plastic deformation” throughout its life, which can lead to shortening. (Hallman Dep. at 146.) Hallman testified that he has seen similar degrees of deformation in vehicle suspension coil springs, which use comparable systems. (*Id.* at 147–48.) Hallman determined that the spring’s plastic deformation would increase as its “fatigue cracks” grew, which could have resulted in substantial shortening. (*Id.* at 147.) Meissner agreed with the ideas underlying Hallman’s opinion, admitting that it is scientifically accepted that springs can permanently shorten. (ECF No. 55-10 at 55 (native pagination).)

Hormel’s internal documents also do not suggest the spring had been replaced. HYG nevertheless asserts that because it *could have* been replaced, Hallman cannot testify to an alternative theory. “Only if the expert's opinion is so fundamentally unsupported that it can offer no assistance to the jury must such testimony be excluded.” *Bonner*, 259 F.3d at 929–30 (citation omitted). That is not the case here. Hallman may testify about whether the spring was an original HYG part.

C. The Cause of the Brake Failure

HYG argues that Hallman cannot reliably testify that the broken spring led to the forklift's brake failure because he did not test "the effect a broken spring would have on the functionality of the forklift's brake." (ECF No. 51 at 14.) HYG contends that Hallman did not test a brake assembly system with a fractured spring to see how the brake would function and did not determine how the spring was situated in the brake pedal assembly when it broke. As Moe explained, Hallman was unable to recreate the brake pedal assembly and thus was unable to test how the brake pedal worked with a broken spring. Unlike the rubbing theory, Hallman's conclusion about the spring's essential function is permissible expert testimony because it is based on known facts and his expertise. *See Allstate*, 932 F.3d at 701. Hallman coupled his observations about the brake assembly and the compression spring with his engineering expertise to determine the spring's necessity. His conclusions are reliable and relevant.

Hallman's opinion is also supported by the record. A HYG representative testified that the spring provides "one of the methods to . . . brake the truck." (ECF No. 56-1 (filed under seal) at 60 (native pagination).) Without the spring, it follows that the brakes would

be compromised, and Hallman's testimony will assist the factfinder in determining causation. Hallman may opine on how the spring contributed to the brake failure.

II. Summary Judgment

Moe alleges negligence and strict liability claims based on three product liability theories: (1) manufacturing defect; (2) design defect; and (3) failure to properly warn. HYG moves for summary judgment on Moe's claims.

Summary judgment is appropriate "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986) (quoting Fed. R. Civ. P. 56(c)). "The non-moving party receives the benefit of all reasonable inferences supported by the evidence, but has the obligation to come forward with specific facts showing that there is a genuine issue for trial." *B.M. ex rel. Miller v. S. Callaway R-II Sch. Dist.*, 732 F.3d 882, 886 (8th Cir. 2013) (quotation marks and citation omitted). "A complete failure by the non-moving party 'to make a showing sufficient to establish the existence of an element essential to that party's case . . . necessarily renders all other facts immaterial.'" *Id.* (quoting *Celotex*, 477 U.S. at 322–23).

A. Defective Manufacturing Claims

Moe pleads that the spring was defectively manufactured. The parties did not separately brief whether the manufacturing-defect claims should be dismissed at

summary judgment or if Hallman should be excluded from testifying about these defects.

Without more information, the Court denies the motion.

B. Defective Design and Failure-to-Warn Claims

With respect to Moe's failure-to-warn and design-defect claims, "the theories of negligence and strict liability are effectively merged into a single theory of products liability." *Kapps v. Biosense Webster, Inc.*, 813 F. Supp. 2d 1128, 1146 (D. Minn. 2011) (citing *Bilotta v. Kelley Co.*, 346 N.W.2d 616, 623 (Minn. 1984)).

1. Defective Design

Moe's defective design claims require that Moe demonstrate "(1) the product was in a defective condition, unreasonably dangerous to the user, (2) the defect existed when the product left the manufacturer's control, and (3) causation." *Westbrock v. Marshalltown Mfg. Co.*, 473 N.W.2d 352, 356 (Minn. Ct. App. 1991); *see also Ehlers v. Siemens Med. Sols., USA, Inc.*, 251 F.R.D. 378, 383 (D. Minn. 2008) (same). HYG was obligated to exercise a "degree of care in [its] plan or design so as to avoid any unreasonable risk of harm to anyone who is likely to be exposed to the danger when the product" is operated by foreseeable users. *Bilotta*, 346 N.W.2d at 621 (brackets and citation omitted). Moe asserts that HYG defectively designed the forklift's brake assembly because the spring rubs against the brake retention tab. But without Hallman's testimony on the rubbing theory, Moe is unable to establish that the brake assembly had design defects which created an unreasonably dangerous condition.

Minnesota law does not necessarily require expert testimony in products liability cases. In deciding when expert testimony is necessary, courts in this district have applied the standard used in negligence cases: Expert testimony is not required “‘where the acts or omissions complained of are within the general knowledge and experience of lay persons.’ . . . If, however, ‘it would be speculative for the fact finder to decide the issue’” without expert testimony, then the expert testimony is necessary. *Mozes v. Medtronic, Inc.*, 14 F. Supp. 2d 1124, 1128 (D. Minn. 1998) (quoting *Atwater Creamery Co. v. W. Nat’l Mut. Ins. Co.*, 366 N.W.2d 271, 279 (Minn. 1985)); see also *Markel v. Douglas Techs. Grp., Inc.*, No. 17-CV-1790 (SRN/LIB), 2019 WL 1440423, at *3 (D. Minn. Apr. 1, 2019) (same); *Holverson v. ThyssenKrupp Elevator Corp.*, No. 12-CV-2765 (ADM/FLN), 2014 WL 3573630, at *4 (D. Minn. July 18, 2014) (same).

Here, an expert is necessary to explain the engineering principles behind the forklift’s brake assembly. And to establish that HYG did not exercise reasonable care in its design, an expert must testify to an alternative design or provide evidence that the forklift should have been taken off the market. *Kapps*, 813 F. Supp. 2d at 1161 (citing *Kallio v. Ford Motor Co.*, 407 N.W.2d 92, 96–97 (Minn. 1987)). Summary judgment as to this claim is granted.

2. Failure to Warn

Moe claims HYG breached its duty to warn end users to inspect the spring before operation and to replace the spring at regular intervals. HYG has a duty to warn end

users about the dangerous products it supplies if it has actual or constructive knowledge about the dangers, and “it is reasonably foreseeable that an injury could occur in its use.” *Gray v. Badger Min. Corp.*, 676 N.W.2d 268, 274 (Minn. 2004). To establish a failure to warn claim, Moe also must establish a “direct causal nexus between a failure to warn and the injury sustained.” *Tuttle v. Lorillard Tobacco Co.*, 377 F.3d 917, 924 (8th Cir. 2004).

Even if HYG knew the brake assembly’s spring was prone to fracture and did not adequately warn end users about this danger, Moe failed to show that an adequate warning would have prevented his injury. *See id.* (explaining that “admissible evidence the product user would have acted differently had the manufacturers provided adequate warnings” is necessary to prevail on a failure to warn claim (citing *Krein v. Raudabough*, 406 N.W.2d 315, 320 (Minn. Ct. App. 1987))) (other citations omitted). To Moe’s first argument that HYG should have warned users to check the spring before operation, Hallman established that a more thorough inspection of the forklift would not have revealed the spring’s defect. The spring’s crack was not visible to the naked eye, and the forklift had to be taken apart to discover the defect. (Hallman Dep. at 158, 160.) Hallman’s conclusions also cut against Moe’s second argument that the spring should have been routinely replaced: Hallman’s testimony suggests a spring fracture would lead to immediate brake failure. (*Id.* at 63 (explaining the unlikelihood that the brakes could function with a fractured spring).) Moe presents no evidence that a routine servicing would prevent brake failure under this scenario. Because Moe is unable to demonstrate

proximate causation, the Court must grant summary judgment on the failure-to-warn claims.

CONCLUSION

Based on the foregoing and on all the files, records, and proceedings herein, Defendant Hyster-Yale Group, Inc.'s motion to exclude expert testimony and for summary judgment (ECF No. 49) is GRANTED IN PART and DENIED IN PART as described herein.

Dated: September 1, 2022

BY THE COURT:

s/Nancy E. Brasel

Nancy E. Brasel

United States District Judge